

Improving Project Delivery Costs, Time, and Program Credibility

**ACEC/WSDOT
Project Delivery Task Force**

Annual Conference

June 3, 2008

Task Force Mission-- *explore ways to:*

- ✓ Reduce costs
- ✓ Reduce time
- ✓ Improve “Program” predictability
- ✓ Share ideas and lessons learned
- ✓ Improve public perceptions

Project Delivery Improvements

- Past Change Recommendations
- Current Change Recommendations
 - *Expand Construction Administration Expertise and Capacity*
 - *Establish a Project Definition Phase*
 - *Resource Agencies and the EIS process*
 - *Standard Specifications Alignment*

Work Session Format

- Introduction to Change
- Proposed Change Recommendations
 - *The Problem (Opportunity)*
 - *Change Recommendation (s)*
 - *Making Change Happen—Benefits and Stakeholders*
- Group feedback/comment on Change
- Other Project Delivery “Change Topics”

Change Recommendation:
***Expand Construction Administration
Expertise and Capacity***

Explore and implement NEW ways to leverage and expand WSDOT Construction Administration (CA) expertise and capacity to serve its rapidly increasing construction program and expectations.

The Problem? – *the opportunity!*

The Problem (Opportunity):

- ❑ *Shrinking WSDOT Construction Administration (CA) and related resources (capacity, experience, and expertise) ,*
- ❑ *WSDOT's construction program is increasing at an unprecedented rate.*
- ❑ *The TPA and Nickel programs are all but completed for design.*
- ❑ *New construction delivery methods such as Design -Build are stretching existing WSDOT resources*
- ❑ *Multiple Mega-Projects are on the horizon throughout the state.*
- ❑ *The gap between “institutional CA knowledge” and evolving skill sets is increasing.*
- ❑ *Shortage of entry level WSDOT technicians that typically perform the day-to-day construction field work, testing, and oversight.*
- ❑ *The Consultant community has both CA expertise and capacity*
- ❑ *WSDOT CA traditionally in house*

Major causes for current process performance (*the opportunity*):

WSDOT

- ✓ Administration and capacity to deliver the construction program.
- ✓ Increased stewardship of public funds.
- ✓ Improve results at less cost and more expediently
- ✓ WSDOT “strong owner” role in the CA delivery.
- ✓ Legal and policy requirements are fulfilled.
- ✓ CA risks are managed—security, strong owner, resource augmentation

ACEC

- ✓ Transition and tool up (or re tool) for CA services.
- ✓ Underutilized regional consultant capacity.
- ✓ Lost intellectual capacity on WSDOT projects
- ✓ Reduce overhead by redeploying design staff to CA
- ✓ Increased development of consultant staff resources and “institutional memory” on WSDOT project delivery.
- ✓ Vested regionally—improve the efficiency, delivery, response, and product “quality” of consultant services.

The Change Recommendation

- **Review** the restraints and constraints to contracting out CA services: a) Statutory and regulatory b) Business models c) Cultural d) Union
- **Research, evaluate, and leverage** other successful CA contracting processes
- **Assess and leverage** “layered” WSDOT Project Office experience
- **Revise** WSDOT’s policies and procedures to encourage the use of Consultants in the delivery of CA services
- **Make it policy:** recommend that the use of Consultants fills a public necessity and is needed for WSDOT
- **Make change happen:** Rethink perceptions and misperceptions about Consultants on CA . Address the continued mis-understanding of the Consultant business model. Foster Consultant training and certification.
- **Change by leading:** cultural change must originate, be championed, and celebrated at the highest levels of the organizations involved.

Making Change Happen— *Benefits and Stakeholders*

Why proposed change will result in improved performance (Benefits):

- **Improves** WSDOT/ACEC relationships.
- **Achieves** WSDOT workload balancing.
- **Increases** the consultant's resource base of WSDOT program and project specific CA expertise
- **Increases** WSDOT stewardship of public funds
- **Potentially reduces** costs for construction related claims
- **Improves** public clarity in how projects move to ribbon cutting.
- **Improves** “product quality” through consistency and continuity in CA teams
- **Leverages** institutional CA “knowledge” to produces desirable and repeatable results

Stakeholders:

– **WSDOT**

- Governor/ WSDOT Secretary (*P. Hammond*)
- Deputy Secretary (UCO) (*D. Dye*)
- Construction Programs (*L. Laird*)
- Chief Engineer (*Jerry Lenzi*)
- Co-chair ACEC/WSDOT Liaison Committee (*D. Nelson*)
- Finance Administration (*B. Ford*)
- Audit Office (*S. McKerny*)
- Consultant Programs (*M. Kane*)
- Materials Lab (*Tom Baker*)
- Risk Manager (*John Milton*)
- IT (*Grant Rhodes*)
- Project Engineers

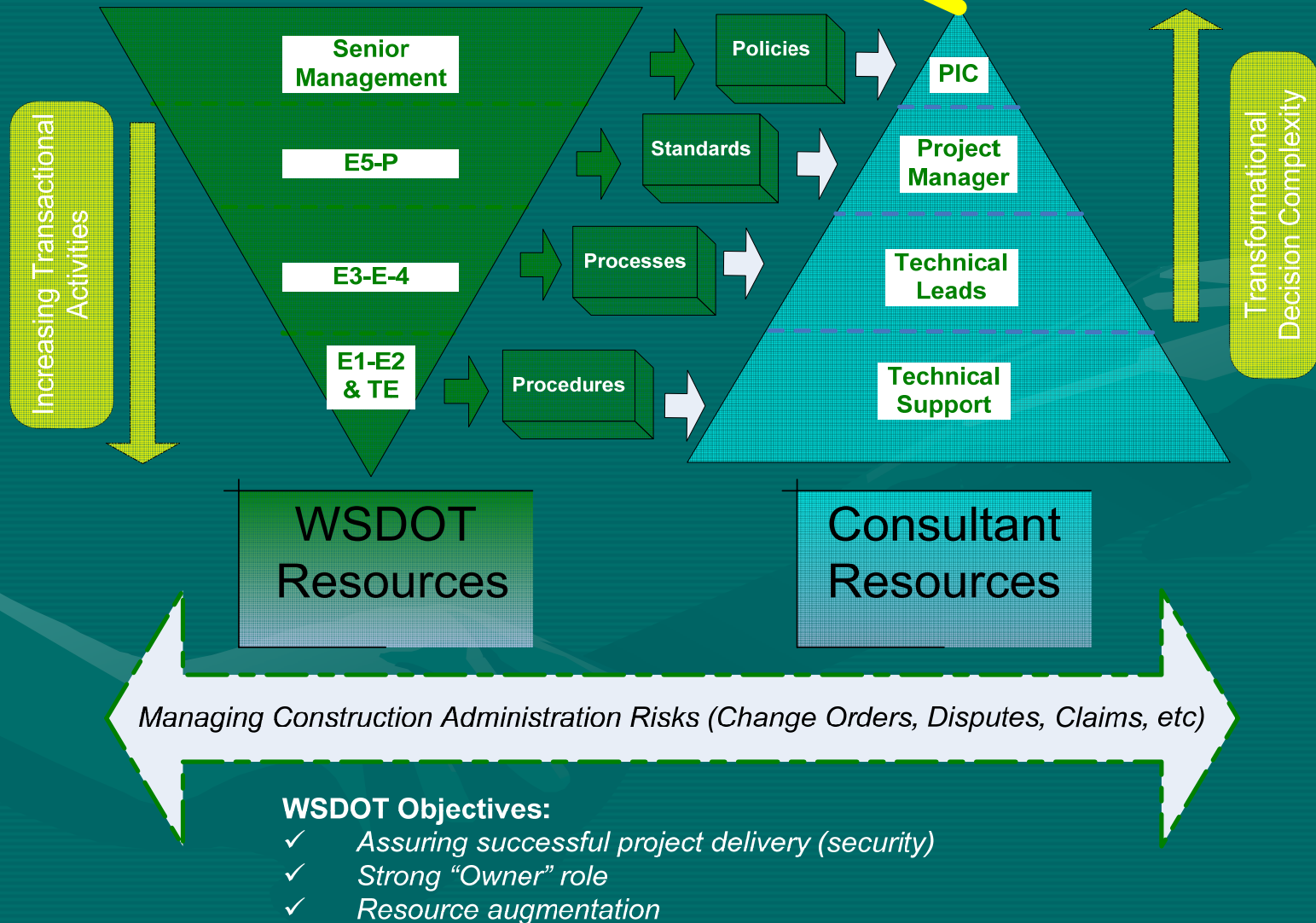
– **ACEC**

- Co-chair ACEC/WSDOT Liaison Committee (*Denny Ingham -HW Lochner*)
- ACEC Director (*B. Garrity*)

– **Others:**

- *Association of General Contractors (AGC)*
- *Insurance industry*

Bridging The CA "Gap"



Feedback/Comments

- What do you think?



Change Recommendation:

Establish a Project Definition Phase

Currently:

- *Projects are defined and estimated prior to PE funding appropriation.*
- *PE is funded, then the real work of preliminary design happens*
 - *More info, better decisions*
 - *Better estimate*

What Is The Problem?

- ❑ *Estimates requested before funding is available to produce a good estimate*
- ❑ *WSDOT is then measured against those early estimates*
- ❑ *Subsequent (adequate) funding requests are perceived as cost overruns, poor engineering*
- ❑ *As stakeholder needs emerge, scope creep takes place*

The Change Recommendation

- **Request** that a separate Project Definition phase is funded for selected (new) large, complex projects
- **Wait** until adequate Project Definition is done, then **request** funding for PE, RW, CN
- **Requires research** into federal and state policies and statutes
- **Requires buy-in** by WSDOT, Consultant to adequately and accurately scope projects

Benefits

- **Improves** decision making when it's time to fund the project
- **Improves** WSDOT, Consultant credibility
- **Improves** project quality
- **Reduces** scope creep
- **Allows** WSDOT and Consultant to more accurately estimate task scopes of work
- **Allows** better measurement of performance

Feedback/Comments

- What do you think?



Change Recommendation:
*Resource Agencies and
the EIS process*

Explore and implement NEW ways to build relationships and establish a collaborative process which both supports environmental stewardships and meets our accountability to the public for budget and schedule.

The Problem? – *the opportunity!*

The Problem (Opportunity):

- *Often engineers, designers and scientists are asked to provide detailed and precise estimates of impacted resources as well as the consequences of those impacts.*
- *The “details” reach far beyond the engineering work done and what is needed to provide a solid basis for the assumptions made.*
- *Resource agencies (importantly) are not obligated (by law or agreement) to meet project schedules and thus have no direct accountability to the sponsor for problems that result from delays.*
- *Transportation sponsors and resource agencies have different underlying needs and purposes. They exist for different reasons and have clear but different mandates.*
- *These differences cause unnecessary conflict late in design, often culminating in the need for a sponsor to rework project elements or resubmit specific documentation.*
- *This rework and resubmission often result in schedule delays, cost increases, strained relationships and, ultimately, loss of public trust and goodwill.*

Major causes for current process performance (the opportunity):

- *Lack of clarity as to what specific information, in what form, is required to make a permit decision or approval.*
- *Required “information” is perceived to change.*
- *Few laws set strict limits on the amount of time resource agencies have to process applications.*
- *Performance measures related to meeting sponsor schedules are not tied to funding.*
- *Personnel on both sides treat encounters as positional negotiations.*
- *Sponsors often feel pressured to agree to resource agency requests to keep on schedule.*
- *Time to process applications often erodes the sponsor’s ability to negotiate fairly with third parties.*

The Change Recommendation

- **Tie funding** of Liaison programs to performance in meeting schedule deliverables.
- **Clarify expectations** of all parties regarding the specific information (and form of that information) required to make a permit decision or approval.
- **Create a sense** of purpose and urgency for change among all agencies.
- **Search** for and include in discussions, champions from the state Legislature and Congress that have the power to effect broad change.
- **Clarify the boundaries** of resource agency's authorities and DOT obligations.
- **Clarify expectations** of all parties regarding the specific information (and form of that information) required to assess impacts within context of NEPA and make a permit decision or approval.
- **Measure and report** on progress (related to DOT budget and schedule) for changes implemented.
- **Make changes** a clear part of laws and agency guidance.
- **Use a stepwise approach** at implementation of recommendations as resources are limited on all sides.
- **Set and report** on long-term performance. Tie dollars to performance in that report.

Making Change Happen— *Benefits and Stakeholders*

Why proposed change will result in improved performance (Benefits):

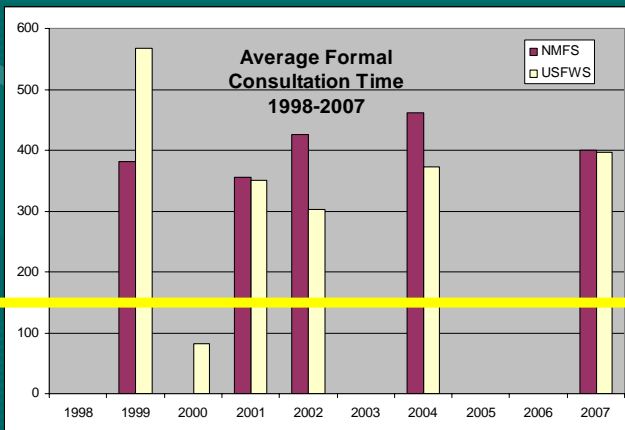
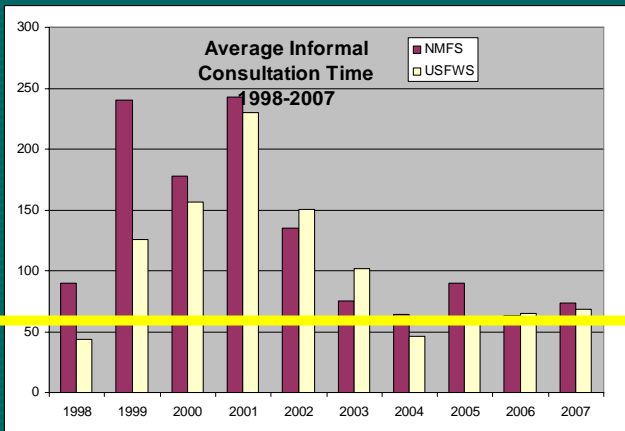
- **Improves** safety and working towards reducing traffic congestion is less time.
- **Better meet** agreed to mutual expectations in early phases.
- **Builds** better relationships with resource agencies and credibility with the public.
- **Reduces** costs to both the resource agencies and transportation project sponsors
- **Establishes** a more effective governmental process and improved public credibility potentially leading to an increase in public funding.

Stakeholders:

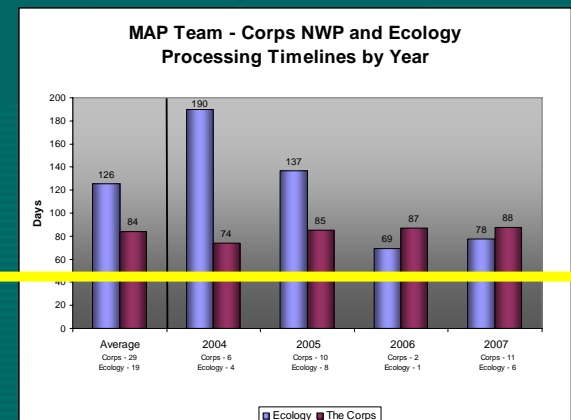
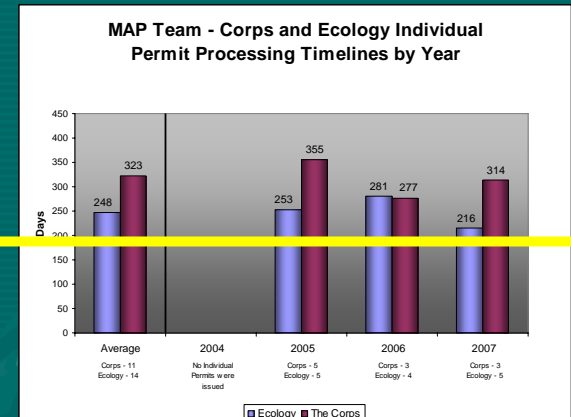
- **WSDOT**: specifically the Environmental Services, regional Environmental, and Design Offices Management, and the PE's in charge of the projects.
- **State and Federal** resource agencies who review and approve environmental documents and who routinely issue permits or approvals to the WSDOT.

The Basis of the Issue-Time and Money

The **average monthly expense** of a simple safety project is about \$25,000 per month



Lines show **statutory timeframes**



Feedback/Comments

- What do you think?



Change Recommendation:

Standard Specifications Alignment

Revising the Standard Plans and Standard Items to correspond with the Standard Specifications.

The Problem? – *the opportunity!*

The Problem (Opportunity):

- *Standard items numbers have no intuitive meaning to users. For example “3090 Catch Basin Type 1”*
- *Standard Plan B-5.20-00 is reference for “Catch Basin Type 1”. There is no correlation with the Standard Specifications.*

Major causes for current process performance (the opportunity):

WSDOT

- ✓ *Data base tracking.*
- ✓ *Ebase*

ACEC

- ✓ *Adapted to way things have always been.*

The Change Recommendation

- **Renumber** Standard Item
 - *“3090 Catch Basin Type 1” would be “7-05.3090 Catch Basin Type 1” where the 7-05 refers to Section 7-05 Manholes, Inlets, Catch Basins, and Drywells of the Standard Specification.*
- **Organize** the Standard Plan in according to the Standard Specification.
 - *For example Standard Plan B-5.20-00 could be 7-05.XXX.*

Current Standard Item No.

| ITEM NO. | STD. ITEM NO. | DESCRIPTION | UNIT |
|--------------------|---------------------|--|------|
| <i>PREPARATION</i> | | | |
| 1 | 0001 | MOBILIZATION | L.S. |
| 2 | 0025 | CLEARING AND GRUBBING | ACRE |
| <i>GRADING</i> | | | |
| 3 | 0310 | ROADWAY EXCAVATION INCL. HAUL | C.Y. |
| 4 | 0460 | EMBANKMENT IN PLACE | C.Y. |
| <i>DRAINAGE</i> | | | |
| 5 | 1030 | DITCH EXCAVATION INCL. HAUL | C.Y. |
| <i>STORM SEWER</i> | | | |
| 6 | 3091 | CATCH BASIN TYPE I | EACH |
| 7 | 3541 | SCHEDULE A STORM SEWER PIPE 12 IN. DI | L.F. |
| <i>STRUCTURE</i> | | | |
| 8 | 4025 | GRAVEL BACKFILL FOR WALL | C.Y. |
| 9 | 4139 | CONC. CLASS 4000 FOR RETAINING WALL | C.Y. |
| 10 | 4150 | ST. REINF. BAR FOR RETAINING WALL | LB. |
| <i>TRAFFIC</i> | | | |
| 11 | 6700 | CEMENT CONC. TRAFFIC CURB AND GUTTER | L.F. |
| <i>OTHER ITEMS</i> | | | |
| 12 | 7005 | STRUCTURE EXCAVATION CLASS B | C.Y. |
| 13 | 7055 | CEMENT CONC. SIDEWALK | S.Y. |
| 14 | | CEMENT CONC. DRIVEWAY ENTRANCE TYPE 1 MODIFIED | S.Y. |

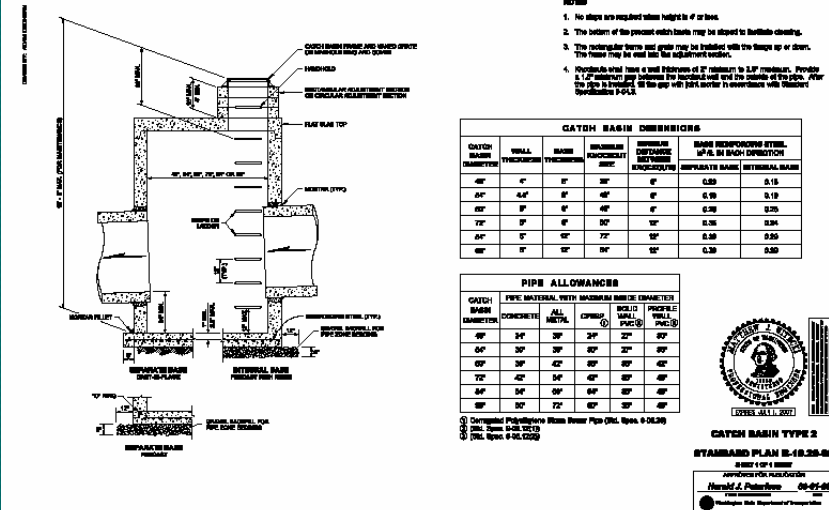
Proposed Standard Item No.

| ITEM NO. | STD. ITEM NO. | DESCRIPTION | UNIT |
|--------------------|---------------------|--|------|
| <i>PREPARATION</i> | | | |
| 1 | 1-09.0001 | MOBILIZATION | L.S. |
| 2 | 2-01.0025 | CLEARING AND GRUBBING | ACRE |
| <i>GRADING</i> | | | |
| 3 | 2-03.0310 | ROADWAY EXCAVATION INCL. HAUL | C.Y. |
| 4 | 2-03.0460 | EMBANKMENT IN PLACE | C.Y. |
| <i>DRAINAGE</i> | | | |
| 5 | 2-10.1030 | DITCH EXCAVATION INCL. HAUL | C.Y. |
| <i>STORM SEWER</i> | | | |
| 6 | 7-05.3091 | CATCH BASIN TYPE I | EACH |
| 7 | 7-04.3541 | SCHEDULE A STORM SEWER PIPE 12 IN. DIAM. | L.F. |
| <i>STRUCTURE</i> | | | |
| 8 | 9-03.4025 | GRAVEL BACKFILL FOR WALL | C.Y. |
| 9 | 6-11.4139 | CONC. CLASS 4000 FOR RETAINING WALL | C.Y. |
| 10 | 6-11.4150 | ST. REINF. BAR FOR RETAINING WALL | LB. |
| <i>TRAFFIC</i> | | | |
| 11 | 8-04.6700 | CEMENT CONC. TRAFFIC CURB AND GUTTER | L.F. |
| <i>OTHER ITEMS</i> | | | |
| 12 | 2-09.7005 | STRUCTURE EXCAVATION CLASS B | C.Y. |
| 13 | 8-14.7055 | CEMENT CONC. SIDEWALK | S.Y. |
| 14 | 8-06.XXXX | CEMENT CONC. DRIVEWAY ENTRANCE TYPE 1 MODIFIED | S.Y. |

Manual Alignment – Standard Plans and Standard Specifications

Section B Drainage Structures and Hydraulics

| Section | Std. Plan No. | Standard Plan |
|---------|---------------|---|
| 7-05 | B-5.20-00 | Catch Basin Type 1 |
| 7-05 | B-5.40-00 | Catch Basin Type 1L |
| 7-05 | B-5.60-00 | Catch Basin Type 1P (for Parking Lot) |
| 7-05 | B-10.20-00 | Catch Basin Type 2 |
| 7-05 | B-10.40-00 | Catch Basin Type 2 with Flow Restrictor |
| 7-05 | B-10.60-00 | Catch Basin Type 2 with Baffle Type Flow Restrictor |
| 7-05 | B-15.20-00 | Manhole Type 1 |
| 7-05 | B-15.40-00 | Manhole Type 2 |
| 7-05 | B-15.60-00 | Manhole Type 3 |
| 7-05 | B-20.20-01 | Drywell Type 1 (for Swale) |
| 7-05 | B-20.40-01 | Drywell Type 2 (with Pipe Inlet) |
| 7-05 | B-20.60-01 | Drywell Type 3 (with At-Grade Inlet) |
| 7-05 | B-25.20-00 | Combination Inlet |
| 7-05 | B-25.60-00 | Concrete Inlet |
| 9-05 | B-30.10-00 | Rectangular Frame (Reversible) |
| 9-05 | B-30.20-01 | Rectangular Solid Metal Cover |
| 9-05 | B-30.30-00 | Rectangular Vaned Grate |
| 9-05 | B-30.40-00 | Rectangular Bi-Directional Vaned Grate |
| 9-05 | B-30.50-00 | Rectangular Herringbone Grate |
| 9-05 | B-30.70-00 | Circular Frame (Ring) and Cover |
| 9-05 | B-30.80-00 | Circular Grate |



Making Change Happen— *Benefits and Stakeholders*

*Why proposed change will
result in improved
performance (Benefits):*

- *Improves efficiency*
- *Employee Training
Opportunity*
- *Design vs Construction*

Stakeholders:

- *WSDOT*
- *ACEC*
- *Contractors*

Feedback/Comments

- What do you think?



Setting The Project Delivery Task

Force priorities:

Topics that improve:



- ☐ *Costs*
- ☐ *Delivery time*
- ☐ *Public perceptions*

Priority:

- ✓ *MONEY*
- ✓ *TIME*
- ✓ *UNCERTAINTY*
- ✓ *PUBLIC
CREDIBILITY*

| Topics affecting our collective ability to meet political, public, and business expectations for delivering transportation infrastructure and services? | | | | | | | |
|---|---|---------|------|-------------|--------------------------------|---|---|
| Feb 1 2008 PD Task Force Priority | Brainstormed Project Delivery Improvement Topic (February 2008) | \$\$\$s | Time | Uncertainty | Credibility (Policy & Program) | Comments/Options | Assigned PD Task Force Leads |
| * 1 | Construction Administration and Delivery to be rethought | 3 | 3 | 3 | 3 | Get out in front/new model | Mike Mariano, Scott Williams, Kirk Berg, Doyle Dilley |
| | Audit Process (e.g. POS) | 1 | 1 | 2 | 3 | Engage Audit people earlier | |
| | Process burdens mounting (e.g. Delivery, Records, financial and legal) | 3 | 3 | 3 | 3 | Joint training on key processes | |
| | DOT resource base, competencies & capacity to deliver are unclear. | 2 | 3 | 2 | 2 | | |
| * | Varying business models and lack of understanding | 3 | 3 | 3 | 3 | Document 'Business Models' and compare nuances | Terry Paananen, Scott Williams, Glenn Wagemann |
| | Consistency in the role of consultants and then lack of use of consultants is tied to "programming" their use. | 2 | 2 | 1 | 0 | | |
| | Taking out of context the way consultant costs are developed results in misperception that it's a "high" cost | 2 | 2 | 0 | 1 | | |
| | No "WSDOT" overhead bucket...WSDOT down time gets charged to line items | 3 | 1 | 2 | 3 | Budgeting process | |
| | Consultant use of Principals for QA is compromised by Consultant business model | 1 | 3 | 3 | 2 | Awareness/make contracts more specific and accountable | |
| | Lack of shared training....e.g. system and philosophies. Not in the SPMG effort. | 2 | 2 | 2 | 2 | Shared trainings--e.g.. guide/direct on what is required vis-à-vis optional. | |
| | Planning for and setting up contingency in consultant budgets (e.g. MRF) | 2 | 2 | 2 | 1 | Budget | |
| * 3 | "Tail wags the dog" in the EIS process as to design expectations and required high level of detail | 3 | 3 | 3 | 3 | Sets undue expectations with very little design effort to support them (often less than 5%) | Tom McDonald, Lisa Reid, Martin Palmer |
| * 3 | Resource Agency scheduling, priorities and accountability | 3 | 3 | 3 | 2 | | John Villager, Martin Palmer |
| | MPD process lacking "team" culture. Need more "inclusive" language in consultant agreements and both WSDOT and consultant need to have meaningful roles for | 3 | 3 | 2 | 0 | Good intentions but culture throughout WSDOT organization is lacking. | |
| | "Arms length" regulations and process prevents "teaming" WSDOT and Consultant. | 2 | 2 | 1 | 3 | Need to better articulate authority, speed to notice to proceed, etc. | |
| | Reality overstated as to commitments and time to process consultant engagement. | 2 | 2 | 2 | 0 | Empower discussion @ the lowest level | |
| | Lessons learned from On-call, GEC need to be explored | 2 | 3 | 2 | 0 | | |
| | Scoping has different meanings in different venues-- results in duplicative efforts | 2 | 2 | 2 | 0 | This is a function of the Project summary (e.g. Environmental overview)+Project Design Decision Documentation + Project Definition. | |
| * 2 | Current process for scoping and line item budgets sets unrealistic expectations for the long haul. | 3 | 3 | 3 | 3 | Need to explore opportunities for a separate line item for scoping phase (e.g. Pierce County Model) | Mike Mariano, Rick Smith |

Project Delivery-- Work Session Closure

- Objectives Met?
- Change Recommendations affirmed?
- New topics generated?
- Priorities set?
- Action Items assigned?
- Group assessment of work session value?
 - *Thumbs down– Wasted time* 
 - *Thumbs sideways– Ok* 
 - *Thumbs up—Positive experience* 